**Abstract**

*Vehicle Routing Problem With Time Windows* (VRPTW) is a complex problem in combinatorial optimization problems. VRPTW problem is how a central depot distribution of goods, with a certain number of vehicles with a specified capacity that serving some customers at points separate locations, with demand and limited certain time window, with the aim of minimizing the totalcost of the trip, without ignoring the limits of the vehicle and the depot time window.

In this final project, *Ant Colony System* (ACS) algorithm to solve VRPTW. From the optimization point of view, one most important factor in the behavior of real ant colonies is their behavior in search of food, the ants can find shortest paths in search of food from their nest to a food source and vice versa.

**Keywords**: Graph, Vehicle Routing Problem (VRP), Vehicle Routing Problem with Time Windows (VRPTW), Ant Colony System (ACS).